

Scientists predict average dead zone, but 3x long-term goal

7 June 2018

Federal scientists are predicting an average dead zone this summer in the Gulf of Mexico. But they note that this would still be three times greater than the long-term goal for reducing the size of the largely human-caused area where there's too little oxygen to support marine life.

The National Oceanic and Atmospheric Administration predicts this year's will cover about 5,780 [square](#) miles (15,000 square kilometers), or about the size of Connecticut. The 33-year average is about 5,460 square miles (14,100 square kilometers) off the Louisiana and east Texas coasts.

Two Louisiana scientists are predicting a larger hypoxic zone—6,620 square miles (17,250 square kilometers), or slightly larger than the state of Vermont. A tropical storm within the two weeks before the annual mapping cruise would reduce its size by about 30 percent, to less than 4,700 square miles (12,200 square kilometers), said Nancy Rabalais of the Louisiana Universities Marine Consortium and R. Eugene Turner at Louisiana State University.

Last year's dead zone was the largest ever measured, at 8,776 square miles (22,720 square kilometers).

Louisiana's hypoxic zone is among more than 500 worldwide, and is the second-largest caused by people, Rabalais and Turner said.

NOAA's news release said the federal agency is making independent predictions for the first time, after years of working with four universities.

The forecasts are based on nitrogen runoff and river discharge data from the U.S. Geological Survey. Nitrogen and phosphorus carried down the Mississippi River feed plankton blooms that die and sink to the bottom, where their decay uses oxygen.

"The bottom line is that we will never reach the long-term target until more serious actions are taken to reduce the loss of Midwest fertilizers into the Mississippi River system," said aquatic ecologist Don Scavia, professor emeritus of environment and sustainability at University of Michigan. The university's model is one of those contributing to NOAA's.

The smallest measurements were during or after droughts: 1,696 square miles (4,393 square kilometers) in 2000 and 15 square miles (39 square kilometers) in 1988.

The forecast also assumes that the weather is normal before LUMCON's annual survey, which is underwritten by NOAA. Hurricanes or tropical storms stir up the water, adding oxygen and reducing the size of the dead zone.

A national action plan calls for reducing such runoff so that the dead zone shrinks by two-thirds, to 1,950 square miles (5,000 square kilometers) by 2035. That would require cutting the amount of nitrogen flowing into the river by 59 percent, according to a study published online last year in *Proceedings of the National Academy of Sciences*.

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